

## Plant production through indigenous traditional knowledge

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### **Indigenous traditional knowledge:**

Local and indigenous knowledge refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings. For rural and indigenous peoples, local knowledge informs decision-making about fundamental aspects of day-to-day life. Indigenous Technical Knowledge (ITK) refers to the unique traditional local knowledge existing within and developed around the specific conditions by women and men indigenous to a particular geographic area. This indigenous technical knowledge that people in a given community have developed over time and continue to develop it, is based on human experiences on mass scale, dynamic and changing, tested in most cases over centuries of use, endowed with highest possible adaptability to local culture and environment and put greater weight age on minimizing risks rather than maximizing profit. The indigenous technical knowledge (ITK) covers a wide range of subjects, viz. crop production, livestock rearing, natural resource management, food preparation, healthcare, insect pest management and many other.

### **Plant production through indigenous traditional knowledge:**

#### **1. Agro forestry**

Agro forestry involves the deliberate maintenance and planting of trees to develop a microclimate that protects crops against extremes. Blending agricultural with forestry techniques, this farming system helps to control temperature, sunlight exposure, and susceptibility to wind, hail, and rain. This system provides a diversified range of products such as food, fodder, firewood, timber, and medicine while improving soil quality, reducing erosion, and storing carbon.



## 2. Crop Rotations

The principles of crop rotation have been successfully used for thousands of years in agriculture and are still used today. Crop rotation is the practice of growing different crops on the same land so that no bed or plot sees the same crop in successive seasons. It is a practice designed to preserve the productive capacity of the soil, minimize pests and diseases, reduce chemical use, and manage nutrient requirements, all of which help to maximize yield. The practice of crop rotation builds better soil structure and increases the ability to store carbon on farms.



## 3. Mixed-/Inter-cropping

Mixed cropping, also known as intercropping, is a system of cropping in which farmers sow more than two crops at the same time. By planting multiple crops, farmers can maximize land use while reducing the risks associated with single crop failure. Intercropping creates biodiversity, which attracts a variety of beneficial and predatory insects to minimize pests and can also increase soil organic matter, fumigate the soil, and suppress weed growth.



#### **4. Polyculture**

Polyculture systems involve growing many plants of different species in the same area, often in a way that imitates nature. By increasing plant biodiversity, polyculture systems promote diet diversity in local communities, are more adaptable to climate variability and extreme weather events, and are more resilient to pests and diseases. Polycultures are integral to permaculture systems and design and provide many advantages such as better soil quality, less soil erosion, and more stable yields when compared to monoculture systems.

#### **5. Water Harvesting**

Water harvesting is defined as the redirection and productive use of rainfall, involving a variety of methods to collect as much water as possible out of each rainfall. Many water harvesting structures and systems are specific to the eco-regions and culture in which it has been developed. This may involve collecting water from rooftops, from swollen streams and rivers during monsoon season, or from artificially constructed catchments. This ensures that farmers have a substantial amount of water stored up in the case of drought or limited rainfall.

